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CIRCULAR

The Department of Biotechnology and Genetics is organizing Skill development program on “**Molecular Biology Techniques and Instrumentation**” under **DBT STAR Scheme** for Final year B.Sc (V Sem) Biotechnology students from 28th November to 02nd December. The objective of the program is to impart training in Molecular Biology Techniques and to provide insights on instruments used in Life science industries. The workshop will be held for five days between 10 am to 4.30pm.

The program is intended to bridge the gap between the academia and the industry. In this regard we request all the concerned Departments to cooperate and encourage students to be a part of this workshop.


Principal,
M.S. Ramaiah College of Arts, Science & Commerce
MSRIT Post, MSR Nagar
Bangalore - 560 054



Workshop on Molecular Biology Techniques and Instrumentation

Program Schedule

Date & Day	Time	Session	Resource person
28/11/2022 Monday	9.00am- 11.00am	Session 1: Isolation of DNA and Gel electrophoresis. Batch 1 to 5	Dr. Shruthi S.D. Founder & Scientist, BioEdgeSolutions
28/11/2022 Monday	11.00am- 11.30pm	Inauguration	Guest of Honour Dr. Vatsala G Principal
	11.30pm – 4.30pm	Session 2: PCR & Result analysis. Batch 1 - 5	Dr. Shruthi S.D. Founder & Scientist, BioEdgeSolutions
29/11/2022 Tuesday	10am - 12.30pm	Session 1: Isolation of DNA and Gel Electrophoresis Batch 6 -10	Dr. Shruthi S.D. Founder & Scientist, BioEdgeSolutions
	1.30pm – 4.30pm	Session 2: PCR & Result analysis. Batch 6 -10	
30/11/2022 Wednesday	9.30am - 12.30pm	Session 1: Dendrogram studies Batch 1-10	Dr. Shruthi S.D. Founder & Scientist, BioEdgeSolutions
	1.30pm – 4.30pm	Session 2: RT PCR and Flow Cytometry	Shiva Shankar Reddy G. CEO & Managing Director, Averin Biotech Labs
01/12/2022 Thursday	10.30am - 12.30pm	Session 1: High end analysis by GCMS	Mr. Abhijit Bhar President IADFAC
	1.30pm – 3.30pm	Session 2: " Essentials of stem cell techniques"	Dr. Deepti Abbey, Scientist-D Head, Stem Cell Core inStem (BLiSc) NCBS
02/12/2022 Friday	10.30am - 12.00pm	Session 1: “Drug Discovery Revolution: The Beginning?”	Ms. Susha D. Bioinformatics Associate, Bionome
	12.30pm - 1pm	Session 2: Valedictory	Prof. Pushpa H. Prof. Channarayappa

Report On DBT Star Scheme Workshop

Department of Biotechnology and Genetics, organized **Skill development programme on “Molecular Biology Techniques and Instrumentation” (Under DBT Star Scheme)** to improve and strengthen the practical skills in Molecular Biology Techniques and knowledge on instrumentation for undergraduate students from **28/11/2022 - 02/12/2022**, with 100 participants. These techniques imply an “investigative approach” to determine molecular aspects at the genome level and have wide applications in Pharmaceuticals, Forensic, Diagnostics and in research. It involved experimental and computational methods, approaches, protocols and tools for biological research. The workshop aspired to enhance the quality of learning and practical techniques through Hands-on exposure.

This workshop bridges the gap between academic and industry. The module will help the students to understand the strategies involved in PCR and biologics targeting molecular interactions. The event also provides strong intellectual groundwork for the ongoing development of molecular markers and therapeutics.

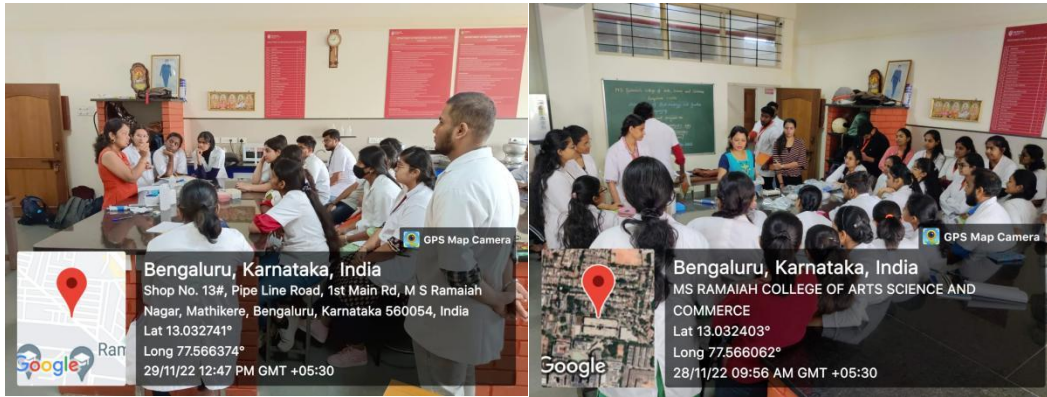
Welcome address to the gathering was rendered by Dr. Vinutha M., Assistant Professor, Department of Biotechnology and Genetics, M. S. Ramaiah College of Arts, Science and Commerce, Bengaluru.



Inaugural Function by all the dignitaries

Inaugural address was rendered by the DBT star Coordinator, Prof Pushpa H. (honourable Chief Guest, Dr. Vatsala G, Principal), M S Ramaiah College of Arts, Science and Commerce, Bengaluru.

The first day workshop was conducted by Dr. Shruthi S.D, Founder & Scientist, BioEdge Solutions on Isolation of genomic DNA from bacteria, followed by Gel electrophoresis, PCR amplification and observation of amplified fragments on the agarose gel for Batch 1 to 5.



Resource Person “ Dr Shruthi D presenting practical sessions



Isolation of DNA and quantification by Agarose gel electrophoresis (Casting, Pipetting and loading)



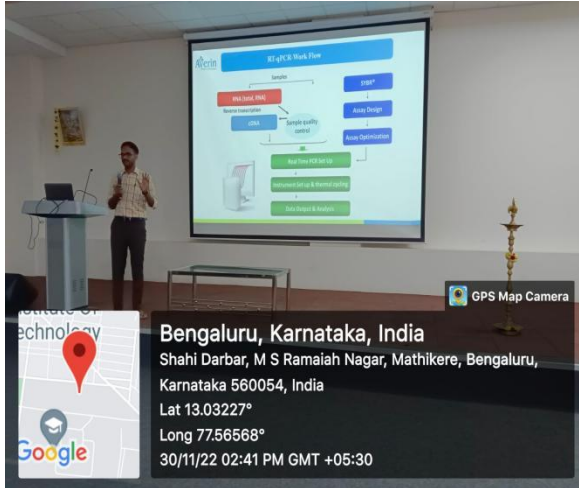
PCR Machine and Amplification in Thermocycler using universal primers

Second day of workshop was conducted for B6 to B10 batch students on Genomic DNA isolation from bacteria, Gel electrophoresis, PCR amplification and amplified DNA fragment separation in agarose gel electrophoresis. Result analysis for same Batch 6 - 10 of students.



RAPD analysis of Samples using bioinformatics software

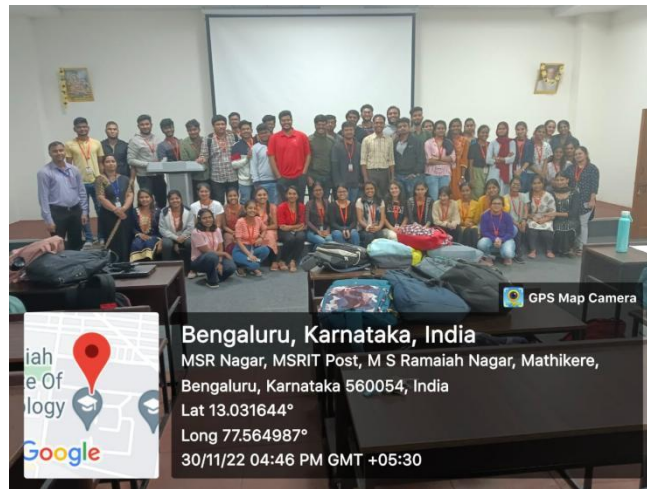
Third day of the workshop included RAPD analysis from amplified DNA fragments (bands) using Bioinformatics computational tools to construct dendrogram. The workshop was conducted in computer lab by the resource person Dr. Shruthi S.D and students had hands on experience on constructing NJ tree. Afternoon session included a fascinating lecture **Mr. Shiva Shankar Reddy G.** CEO & Managing Director, Averin Biotech Labs, on the topic of “RT-qPCR and Flow Cytometry”



Resource person Mr. Shiv Shankar Reddy presenting a fascinating lecture

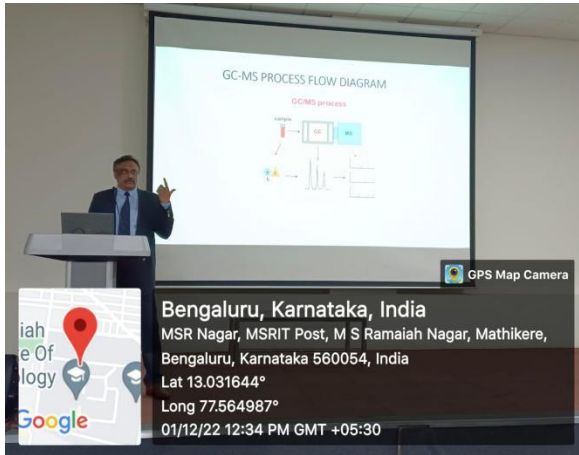


Students with Programme coordinator Dr. Vinutha M

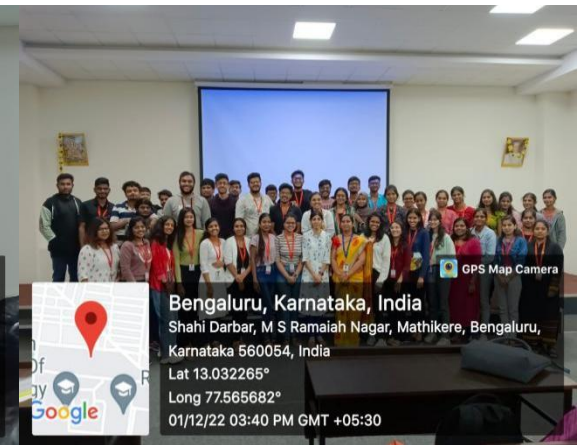
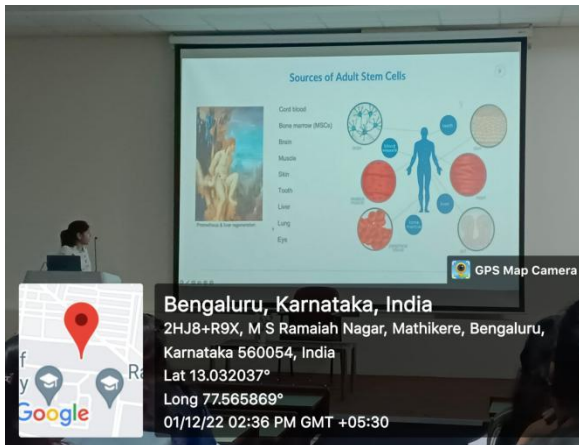


Students with Mr. Shiv Shankar Reddy

Fourth day of the workshop included special lecture by **Mr. Abhijit Bhar**, President **IADFAC**, on the topic "High end analysis by GCMS" in the morning session. In the afternoon session the guest lecture was delivered by Dr. Deepti Abbey, Scientist-D Head, Stem Cell Core inStem (BLiSc) NCBS on the topic "Essentials of stem cell techniques".



Resource person **Mr. Abhijit Bhar** Interaction session



Resource person **Dr. Deepthi Abbey** Group photo of Students

Fifth day Special lecture was delivered by Ms. Susha D. Bioinformatics Associate, Bionome on “Drug Discovery Revolution: The Beginning?” followed by valedictory function.



Presence of Dignitaries in the valedictory function



Student's feedback on the workshop

Vote of thanks was presented by Dr. Pramod Prakash Desai.

Programme outcome: These programmes are mapped to the national skill qualification standards and industry standard creating a strong linkage between formal education and industry. The students get exposed in advanced techniques acquiring knowledge and ability to grow in the research arena, getting recognized at industry level and are credential.

Vatavalaiah
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